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Timber Cruising Manual and Record

BY

E. A. CHASE

Serial No. _____

of _____

Estimator

Published by
AMERICAN LUMBERMAN
CHICAGO, ILL.
1913

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DOYLE RULE

Diam. Inches	LENGTH OF LOG IN FEET												
	12	14	16	18	20	22	24	26	28	30	32	34	36
	CONTENTS IN BOARD FEET												
8	12	14	16	18	20	22	24	26	28	30	32	34	36
9	19	22	25	28	31	34	37	41	44	47	50	53	56
10	27	32	36	41	45	50	54	59	63	68	72	77	81
11	37	43	49	55	61	67	74	80	86	92	98	104	110
12	48	56	64	72	80	88	96	104	112	120	128	136	144
13	61	71	81	91	101	111	122	132	142	152	162	172	182
14	75	88	100	112	125	137	150	163	175	188	200	212	225
15	91	106	121	136	151	166	181	197	212	227	242	257	272
16	108	126	144	162	180	198	216	234	252	270	288	306	324
17	127	148	169	190	211	232	253	275	296	317	338	359	380
18	147	171	196	220	245	269	294	318	343	367	392	416	441
19	169	197	225	253	281	309	338	366	394	422	450	478	506
20	192	224	256	288	320	352	384	416	448	480	512	544	576
21	217	253	289	325	361	397	433	470	506	542	578	614	650
22	243	283	324	364	405	445	486	526	567	607	648	688	729
23	271	316	361	406	451	496	541	587	632	677	722	767	812
24	300	350	400	450	500	550	600	650	700	750	800	850	900
25	331	386	441	496	551	606	661	717	772	827	882	937	992
26	363	423	484	544	605	665	726	786	847	907	968	1028	1089
27	397	463	529	595	661	727	794	860	926	992	1058	1124	1190
28	432	504	576	648	720	792	864	936	1008	1080	1152	1224	1296
29	469	547	625	703	781	859	938	1016	1094	1172	1250	1328	1406
30	507	591	676	761	845	930	1014	1098	1183	1268	1352	1436	1521
31	547	638	729	820	911	1003	1094	1185	1276	1367	1458	1549	1640
32	588	686	784	882	980	1078	1176	1274	1372	1470	1568	1666	1764
33	631	736	841	946	1051	1156	1262	1367	1472	1577	1682	1787	1892
34	675	787	900	1012	1125	1237	1350	1462	1575	1687	1800	1912	2025
35	721	841	961	1081	1201	1321	1442	1562	1682	1802	1922	2042	2162
36	768	896	1024	1152	1280	1408	1536	1664	1792	1920	2048	2176	2304
37	817	953	1089	1225	1361	1497	1634	1770	1906	2042	2178	2314	2450
38	867	1011	1156	1300	1445	1590	1734	1878	2023	2167	2312	2456	2601
39	919	1072	1225	1378	1531	1684	1838	1991	2144	2297	2450	2603	2756
40	972	1134	1296	1458	1620	1782	1944	2106	2268	2430	2592	2754	2916
41	1027	1198	1369	1540	1711	1882	2053	2225	2396	2567	2738	2909	3080
42	1083	1264	1444	1625	1805	1986	2166	2346	2527	2708	2888	3068	3249
43	1141	1331	1521	1711	1901	2091	2282	2472	2662	2852	3042	3232	3423
44	1200	1400	1600	1800	2000	2200	2400	2600	2800	3000	3200	3400	3600
45	1261	1471	1681	1891	2101	2311	2522	2732	2942	3152	3362	3572	3782
46	1323	1544	1764	1985	2205	2426	2646	2867	3087	3308	3528	3749	3969
47	1387	1618	1849	2080	2311	2542	2774	3005	3236	3467	3698	3929	4160
48	1452	1694	1936	2178	2420	2662	2904	3146	3388	3630	3872	4114	4356

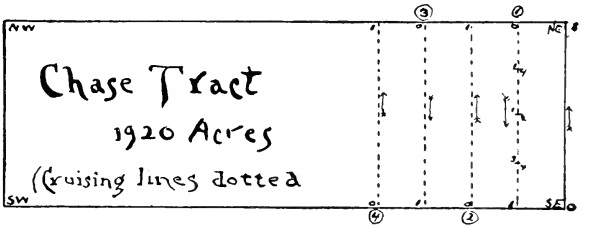
Doyle-Scribner rule is extensively used for hardwoods, combining Scribner figures for 28 inches diameter and over with Doyle figures for smaller logs. The upper portion of the Scribner rule is therefore appended. Cut-off in upper table is shown by black cross rule.

SCRIBNER RULE

Diam. Inches	LENGTH OF LOG IN FEET												
	12	14	16	18	20	22	24	26	28	30	32	34	36
	CONTENTS IN BOARD FEET												
28	436	509	582	654	728	800	873	946	1018	1090	1164	1236	1308
29	457	533	609	685	761	838	914	990	1066	1142	1218	1294	1370
30	493	575	657	739	821	904	986	1068	1150	1232	1314	1396	1478
31	532	622	710	799	888	976	1065	1154	1244	1332	1420	1510	1598
32	552	644	736	828	920	1012	1104	1196	1288	1380	1472	1564	1656
33	588	686	784	882	980	1078	1176	1274	1372	1470	1568	1666	1764
34	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800
35	657	766	876	985	1095	1204	1314	1423	1532	1642	1752	1862	1971
36	692	807	923	1038	1152	1268	1380	1499	1614	1730	1846	1960	2076
37	772	901	1029	1158	1287	1317	1558	1688	1818	1948	2076	2206	2336

Timber Cruising

This diagram represents the tract of land to be cruised; the boundary lines are all plain, the corner posts up and plainly marked. Start at S. E. corner of tract (which will be O) follow boundary line to N. E. corner, estimating 4 rods on left side of line (in case



undergrowth is too dense to see that distance, take 2 rods). On arriving at N. E. corner, after estimating and chaining the distance, set up and mark stake at corner, with distance from the S. base line and name of estimator. From this corner, chain along the N. boundary line 20 chains (or ¼ mile); at this point, which will be line number 1, or line between sections 1 and 2, mark and set up stake with distance from corner, number of line or section, name of estimator, with → pointing direction taken from this point. It is always a good plan while chaining your cruising line to mark your ¼, ½, ¾ and 1 mile points, as they may come in handy later. Continue this every ¼ or ½ mile or whatever distance apart you have decided to run your cruising lines, until the whole tract is gone over.

The sample pages are the estimates, distances, notes and sketches made on line number 1, ¼ mile from and parallel to E. boundary line.

72224

In writing in your notes and sketches, begin at the bottom of

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page and work along the line the way you are traveling, At whatever point on your line the change of growth occurs, draw a line across, showing its location, and in your partial and total chain columns, place your distance opposite line drawn.

The different species of trees to be estimated are placed in columns as shown. The estimate or scale of each log is kept on a separate tally sheet. At the end of each mile the scale of the different species is added and these amounts are placed in their respective columns on opposite page to your notes. After the tally leaf has been used it may be torn out and destroyed, or it may remain, providing the precaution is taken to mark or check the page to prevent its being copied again into your work by mistake.

This book may be used for the square and circle methods of estimating as well as the strip, using 2100 steps of ordinary length to the mile.

Most standing timber is estimated at sight and the length of log and diameter at top end determines scale or number of feet in the log. Among the many log rules in use in this country the Doyle seems to be the favorite, except in the northern states where the rule accepted by the state is largely used.

In estimating standing timber the length of log and diameter at small end, under bark, is a matter of good judgment coupled with a good eye and years of experience in cutting and scaling logs. When one has acquired this knowledge the experienced estimator's eye seeks the length instantly and at the same time determines the diameter.

In determining diameter, use 8-10-12-14-16, etc., inches, leaving out the odd inches as the even ones are close enough. Should a log be a little large for a 12″ and not quite a 14,″ call it a 12″ and even it up on a small 12″ later. The whole thing is a matter of experience and a thorough knowledge of cutting and the manufacture of logs.

Many lumber companies have a standard length of log, usually 16 feet. To meet such cases the 16-foot column in the tables on page 2 are distinguished by a black rule on either side of column so that it may be more conveniently located.

SOIL

In judging soil, fairly accurate work may be done by noting growth which the soil supports.

Maple, oak, red gum denote rich clay, very little sand if any.

Poplar, birch and mixed growth of bushes show more sand, not so much loam.

Pine denotes sandy, porous soil which is usually of poor quality.

Elm, brown or black ash, indicate deep, rich soil.

LUMBER MEASURE

Lumber is generally bought and sold by board measure. The unit of board measure is the board foot—a foot square and an inch thick. A board 18 feet long, 9 inches wide and 1 inch thick containes 13½ board feet. $9 \times 18 = 162$. $162 \div 12 = 13\frac{1}{2}$ board feet.

TIMBER MEASURE

Timber squared is usually sold by the cubic foot. Example: A stick of timber 16 ft. long, 10 in. wide and 8 in. thick contains $8\frac{8}{9}$ cu. ft. $8 \times 10 \times 16 \div 144 = 8\frac{8}{9}$.

One-half of the sum of the end diameters of a log, excluding the thickness of the bark, is called its mean diameter.

The number of board feet of square edged inch boards that can be sawed from a log 30 ft. long and 24 in. in diameter is 750 feet. Example: $24-4=20^2=400 \div 16=25$. $25 \times 30=750$ ft. Diameter used, mean, the diameter at middle of log. A board foot is $\frac{1}{12}$ of a cu. ft.

SURVEYORS' MEASURE

TABLE

7.92 inches = 1 link.
100 links = 1 chain.
80 chains = 1 statute mile.

1 chain = 4 rods = 22 yds. = 66 ft. = 792 inches.

A pace = 2½ ft. in ordinary walking, but 3.3 ft., or $\frac{1}{5}$ of a rod in stepping distances.

LINEAR MEASURE

Table

12 inches = 1 foot.
3 feet = 1 yard.
5½ yards = 1 rod.
320 rods = 1 statute mile.

1 mile = 320 rds. = 1760 yds. = 5280 feet.
40 rds. = 1 furlong, which is seldom used.
The geographic mile or knot = 6086 feet.
A fathom = 6 feet.

SQUARE MEASURE

The unit of land measure is the acre. It may be of any shape, but it is equivalent to a rectangular tract, 5 chains or 20 rds. long and 2 chains or 8 rds. wide.

Table

1000 sq. links } = 1 sq. chain.
16 sq. rds. }

10 sq. chains } = 1 acre.
160 sq. rds. }

640 acres = 1 sq. mile.

A square rod is also called a perch.

A sq. foot is 12 inches long, 12 inches wide = 12×12 = 144 sq. in. = 1 sq. foot.

A sq. yard is 3 feet × 3 feet = 9 sq. ft. = 1 sq. yd.

A sq. rod is 5½ yds. × 5½ yds. = 30¼ sq. yds. = 1 sq. rd.

CUBIC MEASURE

Table

1728 cu. inches = 1 cu. foot.
27 cu. feet = 1 cu. yard.

WOOD MEASURE

The unit of wood measure is the cord. It is a rectangular solid 8 ft. long, 4 ft. high and 4 ft. wide.

A cord foot is 1 ft. long, 4 ft. high and 4 ft. wide.

TABLE

128 cubic ft. = 1 cord.
16 cubic ft. = 1 cord foot.
8 cord ft. = 1 cord.

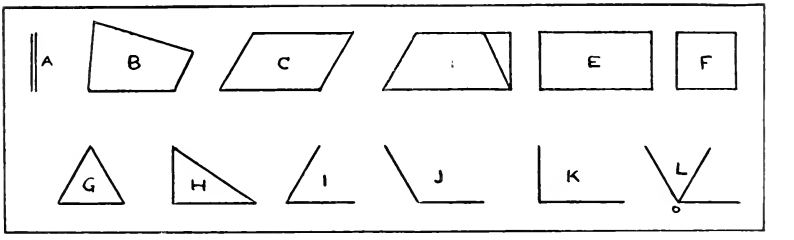
ANGULAR MEASURE

An angle equal to $\frac{1}{90}$ of a right angle is an angle of 1 degree, which is the unit of angles.

$\frac{1}{60}$ of an angle of 1 degree is an angle of 1 minute and $\frac{1}{60}$ of an angle of 1 minute is an angle of 1 second.

TABLE

60 seconds = 1 minute.
60 minutes = 1 degree.
90 degrees = 1 right angle ∟.



Parallel lines are straight lines at any distance from each other which remain at that distance, however far projected in either direction (Fig. A).

A quadrilateral is any figure bounded by four straight lines (Figs. B to F inclusive).

A parallelogram is a quadrilateral whose opposite sides are parallel (Figs. C, E and F).

A trapezoid is a quadrilateral, only two of whose opposite sides are parallel (as per Fig. D, taking either line as its right hand boundary).

A rectangle is a parallelogram whose angles are right angles (Fig. E).

A square is a rectangle whose four sides are all of equal length (Fig. F).

A triangle is any figure bounded by three straight lines (Fig. G, equilateral; Fig. H, right-angled).

An angle is produced at a given point by the meeting of two straight lines at that point (Fig. I, acute; Fig. J, obtuse; Fig. K, right-angled).

Adjacent angles are produced by the meetlng of three straight lines at a common point (as a point O in Fig. L).

The area of a piece of land is the amount of surface it contains expressed in square units.

LINES

A straight line has the same direction throughout.

A curved line has no part straight.

A broken line is composed of two or more different straight lines.

The length of a line is the number and kind of linear units it contains. Thus 4 feet may be the length of a line.

CIRCULAR MEASURE

To find circumference of a circle, multiply diameter by 3.1416.

To find diameter of circle, multiply circumference by .31831.

To find area of a circle, multiply square of diameter by .7854.

To find area of a triangle, multiply base by ½ perpendicular height.

MILL FACTORS

Mill factors means the number of board feet contained in the log, less the waste. Mill factor 8, indicates 8 board feet of lumber sawed, to 4 board feet wasted, in every cubic foot in the log. The waste in sawing depends on the following factors: Soundness of log; diameter of logs; thickness of saw; taper of logs; thickness of boards sawed; skill of sawyer; quality of machinery; shrinkage in drying. A good band saw mill will have a mill factor of 8, while a circular or rotary, about 7.

SOME THINGS A CRUISER SHOULD KNOW

How to select and read a compass.

The letters E and W on a large compass are reversed for convenience in reading.

The heavier and greater number of limbs are on the south side of a tree.

Moss grows on the north side of trees.

Small streams or brooks flow into larger ones and are the best guides out in case you are lost.

Not all standing trees are saw timber.

The number of rings, counting from the pith, is the only way one can tell the probable age of a tree. The size or thickness shows the growth each year.

Never go into the woods without a good reliable compass, a water-proof match box full of matches, and a good strong sheath or jack knife.

Never travel alone if you can avoid it; so many things could happen to you and a companion could go for assistance if nothing more.

The better care you take of yourself, the better and more work you can do

Don't think because you are in the woods that you must rough it as the Indians or woodsmen of fifty years ago did.

Have good plain food and a comfortable bed at night; no man can do good work who does not rest after turning in.

A machete is the best thing you can use for cutting through bushes or small trees.

The best way to determine the soundness of a standing tree is to spot or blaze a smooth place about as high as your head, then strike the blaze with back of axe; if it gives out a booming or hollow sound, you may feel sure it is bad part of the way up. One must train his ear to the sound as does a music teacher in pitching his tune.

In estimating the diameter of a standing tree, do not call a 12″ tree 16″. You know the full moon, when near the horizon, looks

the size of a cart wheel to some men, while to others only that of a tin plate. So be careful of your lengths and diameters.

Never scale a log above or just at the crotch, because it gives you a larger diameter; the length and top end give you amount of board feet in your log. The Doyle rule on small logs takes too many for a thousand feet, while on large logs the scale is so close they will barely squeeze through the mill. So be careful in using this rule. The Holland or Penobscot rule gives you nearer what you have in your log.

You can estimate 4 to 6 miles some days and in some countries, while other days and in other countries, one mile is a good day's work. Conditions of travel and amount of timber determine number of miles cruised.

Never trust to your memory in writing in your notes or at what point on your line the growth changed. At whatever point the change takes place or you encounter anything which should be noted, stop at that point and record it.

Keep your notes and estimates up with your work each day.

If you are an experienced cruiser and woodsman, and have for a companion a young man just out on his first real work from some school of forestry, don't laugh at the many new and seemingly foolish theories he has in his head. You can teach him more in one week about the real work in hand than he learned in all the years he was in school. If he has the right timber in him, of which woodsmen are made, he'll be grateful to you and think you are "Big Medicine." Talk to him and use him like a man and you'll learn some things from him you never dreamed of.

If you get lost, keep as cool-headed as you can. Don't run around. Sit down and talk it over with yourself. Give signals of distress and keep a good fire going at night.

PREPARING FOR A CRUISE

Never, if avoidable, go on a cruise in a rush. Make careful preparations and use good sound judgment in selecting your outfit. First, if possible, find out into what part of the country you are going, and what transportation facilities you will have. If transpor-

tation is other than your own back, a good many conveniences may be taken along which will add to your comfort and perhaps safety. If on the other hand, you have to pack everything, go carefully over your outfit and discard everything that is not absolutely needed. You will find, after this is done, that you have more than one man can carry comfortably. Where transportation is good, the following list of articles makes a good outfit:

One tent.
Water-proof knapsack.
Belt or pocket axe or macnete.
Pocket whetstone.
Small coil of rope.
Good wool blanket.
Rubber blanket.
Matches in tin water-proof box.
Steinfeld cot.
Suit good strong wool clothes.
2 Flannel outside shirts—blue or gray.
Pair extra pants—wool or khaki.
2 Suits underclothes.
Handkerchiefs.
Towels.
2 Pair wool or yarn stockings.
1 Short, light weight oil-coat.
1 Pair strong shoes.
1 Pair moccasins.
1 Pair leather or canvas leggings.
1 Soft hat of good quality.
1 Mosquito canopy made of cheese cloth.
1 Wool sweater.
1 Pair good heavy suspenders.
Belt.
Cake of toilet soap.
Cake of laundry soap.
Tooth brush.
Safety razor.
Good sheath or jack knife.
Water-proof match box.
Good reliable compass.
Canteen.
Pipes and tobacco.

Candles.
Strong fish line.
Half dozen assorted hooks.
Pencils.
Stationery.
Needles and thread.
Buttons.
A few copper rivets of different lengths.
Pins and safety pins.
Two-foot pocket rule.
Ball of yarn and darning needles.
Ditty bag to hold all your small articles.
Pocket comb or hair brush.

As part of this outfit will be worn it will lighten the pack.

A few home remedies for sickness and accidents: Keep your bowels open; a small bottle of compound cathartic pills will be found sufficient.

Sore throat—Remove your stocking and place it about your throat at night, also a little dry sulphur sprinkled in the throat; the inside bark of pine or cedar chewed.

Burns—Oil or common baking soda, dampened.

Cramps—Hot drinks of Jamaica ginger or pepper; piece of woolen cloth wrung out in hot water and laid over seat of pain.

Colds—Take repeated doses of quinine and keep warm and dry.

Ivy Poisoning—Take common soda and water and bathe parts affected; also solution of sugar of lead.

Poisoning—Induce vomiting by drinking large quantities of lukewarm water, or mustard and water.

Freezing—Keep moving. Don't fall asleep—it means death.

Drowning—Loosen all clothing; place the body face down with the head a little elevated; rub the body dry and keep warm. Draw the tongue forward and keep it there so it will not close the windpipe. Induce artificial respiration.

Lightning—Remove clothing and dash cold water over body. Keep this up for hours, if necessary.

Sore feet—Wash clean and rub bean grease into them before an open fire.

Fevers—Keep bowels open; doses of quinine; keep warm and dry; get to a doctor as soon as possible.

For black flies and mosquitoes—1 oz. castor oil, ½ oz. sweet oil, ¼ oz. oil of citronilla, ⅛ oz. aqua ammonia, 10 drops spirits camphor, 50 drops oil of pennyroyal. Mix and rub in lightly. Shake the bottle before using.

Sunstroke—Remove patient to shade; apply cold water or ice to head and neck; sponge body with cold water.

Snake or mad dog bite—Tie cord above wound and either cut the wound out or sear it with hot iron. Get patient to doctor at once.

Insect stings—Apply mud or fresh loam; salt and water, tincture iodine or weak ammonia.

Fainting—Lay flat on back, the head a little lower than the body; loosen clothing about neck and chest; bathe face and neck with cold water; have plenty of fresh air.

Cuts and wounds—Clean parts in pure water and wrap in bandage. Do not remove bandage for two or three days, unless the wound begins to have an offensive odor. A bottle of peroxide or a solution or carbolic acid are good antiseptics.

SPECIMEN PAGES

Pages 15, 16 and 17 are specimen pages filled in by the author to show the exact method of using the blank pages of this book for cruising record purposes. Page 15 represents the tree tally made upon the hinged tablet which lies upon the two pages of the book which are being used. This tablet is left narrow so as not to cover the two chain columns at the right of the page (page 16). The tablet also marks the working place in the book so that it may be returned to pocket, and when taken out again, quickly opened to the right place.

When the cruise of this mile strip is completed, the form on page 15 is added and its totals carried into the proper spaces on page 16. As this strip represents eight acres, a division of these quantities by eight gives the amounts per acre. These, in turn, are carried in summary to the bottom of the page to give the total per acre of all kinds of timber.

The cruising notes on page 17 will be found self explanatory, and the chain record in the two columns on page 16 refers to the corresponding details on the cruising line in the middle of page 17. Some useful symbols for the record have been listed at the bottom of page 17.

Estimates belong on page 16 LINE 1

1/4 Mile from N.E.C. Chase Tract - May 10 - 1908 -

PINE	Bl. Gum	Cypress	Poplar	Juniper	Red Gum
396	196	1936	900	16	16
244	200	900	400	32	36
296	244	1024	625	43	144
530	360	1156	244	56	100
480	196	1225	196	106	36
360	144	900	900	16	100
300	256	400	400	32	256
450	244	530	625	56	196
400	100	625	900	16	196
340	64	841	841	106	256
324	96	729		126	
340	300	1936		148	
500	256	1024		56	
404	300	1848		144	
300	100	1600		169	
500	480	1296		100	
480	196	1225		49	
496	144	1936		36	
568	300	1764		16	
488	244	400		100	
600	296	530		16	
256	144	900		36	
520	64	400		196	
440	100			256	
576	244			196	
668	356			196	
240	300			256	
576	244			144	
430	144			144	
484	100			256	
441	96			196	
400	64			196	
576	296			144	
484	196			256	
530				144	
324				196	
400					
557					
324					
484					
394					
545					
530					
484					
576					
544					
324					
324					
400					
441					
325					
400					
274					
364					
496					
544					
24163	7064	25125	5231	4250	1336

Checked

Entd p. 16

1

LINE Between Section 1 & 2 - 1/4 Mile

LOCA

KINDS OF WOOD						CHAINS	
1 PINE	2 Cypress	3 Bl. Gum	4 Poplar	5 Juniper	6 Red Gum	PARTIAL	TOTAL
	Amounts to the Mile					5	80
24/163	25125	7064	5231	4250	1336	2 5	75 73
						2	68
						2 5	66 64
Reduced to Amounts per Acre						6 3	4 59
3020 3/8	3140 5/8	883	653 7/8	531 1/4	167	3	53
						8	50
KINDS OF WOOD — CONTINUED						5 1	42
7	8	9	10	11	12	8	2 37
	Amounts to the Mile					1	29
						5	28
						13 1	23
							4
Reduced to Amounts per Acre							
						10	10

TIMBER SUMMARY PER ACRE

1 3020 3/8
2 3140 5/8
3 883
4 653 7/8
5 531 1/4
6 167
7
8
9
10
11
12

TOTAL 8376 1/4

CHECKED O K L

May 10 1908

E A Chase
ESTIMATOR

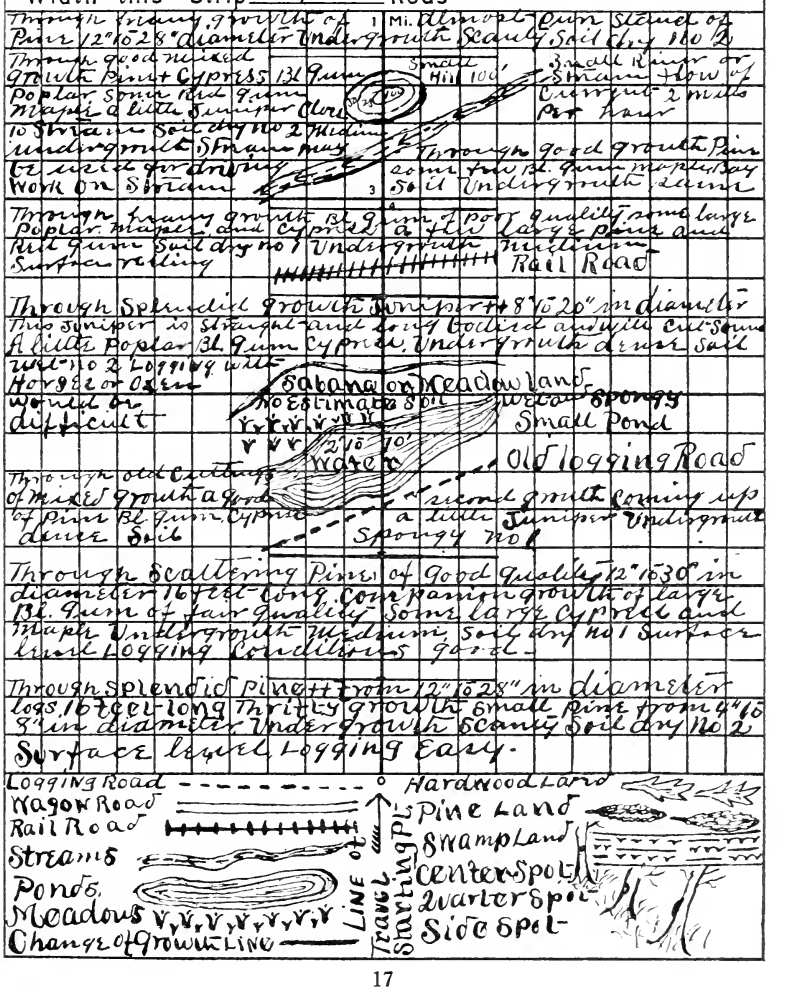
TION

From N.E. Corner of Chase Tract Thence S

2

Cruising Strips to Be 1/4 Mile Apart

Width this Strip 4 Rods



Through heavy growth of Pine 12" to 28" diameter Underg[illegible] Scanty Soil dry No 2 1 Mi. Almost Pure Stand of

Through good mixed growth Pine + Cypress Bl Gum Poplar Some Red Gum Maple a little Juniper Close to Stream Soil dry No 2 Medium undergrowth Stream may be used for driving Work on Stream

Small Hill 100'

Small River or Stream Flow of Current 2 miles per hour

Through good growth Pine some few Bl. Gum Maple Bay Soil Undergrowth same

Through heavy growth Bl. Gum of poor quality some large Poplar Maple and Cypress a few large pine and Red Gum Soil dry No 1 Undergrowth Medium Surface reeling

Rail Road

Through Splendid growth Juniper ++ 8" to 20" in diameter This Juniper is straight and long bodied and will cut some A little Poplar Bl. Gum Cypress Undergrowth dense Soil wet No 2 Logging with Horses or Oxen would be difficult

Sabana on Meadow Land

No Estimate Soil

Wet and Spongy

Small Pond

2' to 10' Water

Old logging Road

Through old Cuttings of mixed growth a good of Pine Bl. Gum Cypress dense Soil

second growth coming up a little Juniper Undergrowth Spongy No 1

Through Scattering Pines of good quality 12" to 30" in diameter 16 feet long Companion growth of large Bl. Gum of fair quality Some large Cypress and Maple Undergrowth Medium Soil dry No 1 Surface level Logging Conditions good.

Through Splendid Pine ++ from 12" to 28" in diameter logs 16 feet long Thrifty growth small pine from 4" to 8" in diameter Undergrowth Scanty Soil dry No 2 Surface level Logging Easy.

Logging Road

Wagon Road

Rail Road

Streams

Ponds

Meadows

Change of Growth Line

Line of Travel Starting Pt.

Hardwood Land

Pine Land

Swamp Land

Center Spot

Quarter Spot

Side Spot

LOCA

KINDS OF WOOD						CHAINS	
1	2	3	4	5	6	PARTIAL	TOTAL
	Amounts to the Mile						
	Reduced to Amounts per Acre					3	4
KINDS OF WOOD — CONTINUED						1	
7	8	9	10	11	12		2
	Amounts to the Mile						
	Reduced to Amounts per Acre					1	4

TIMBER SUMMARY PER ACRE

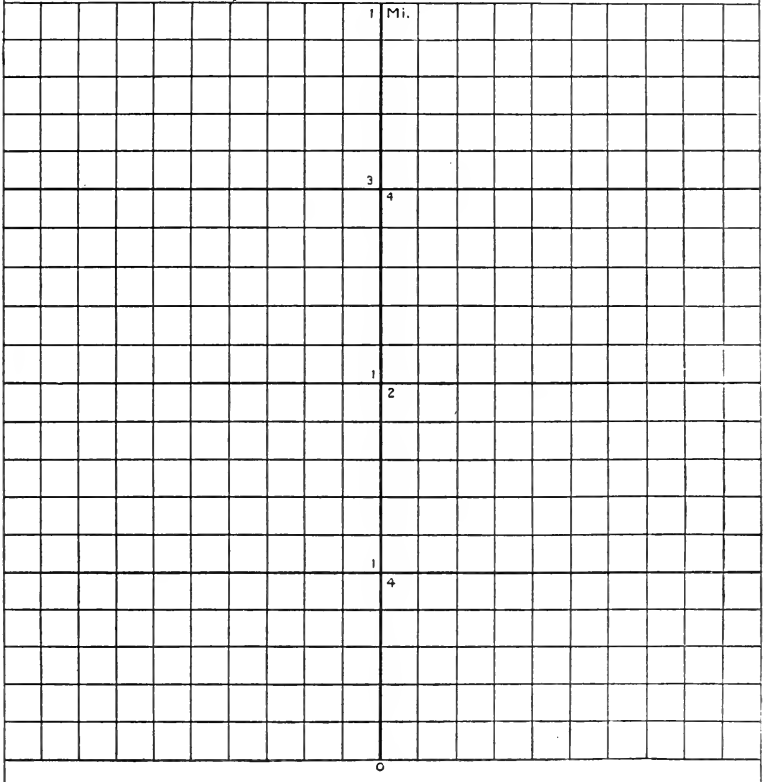
1 2 3 4 5 6 7 8 9 10 11 12 TOTAL

CHECKED O K

ESTIMATOR 19

TION

Cruising Strips to Be_____ Apart
Width this Strip_____ Rods



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						3	
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KINDS OF WOOD_CONTINUED						1	
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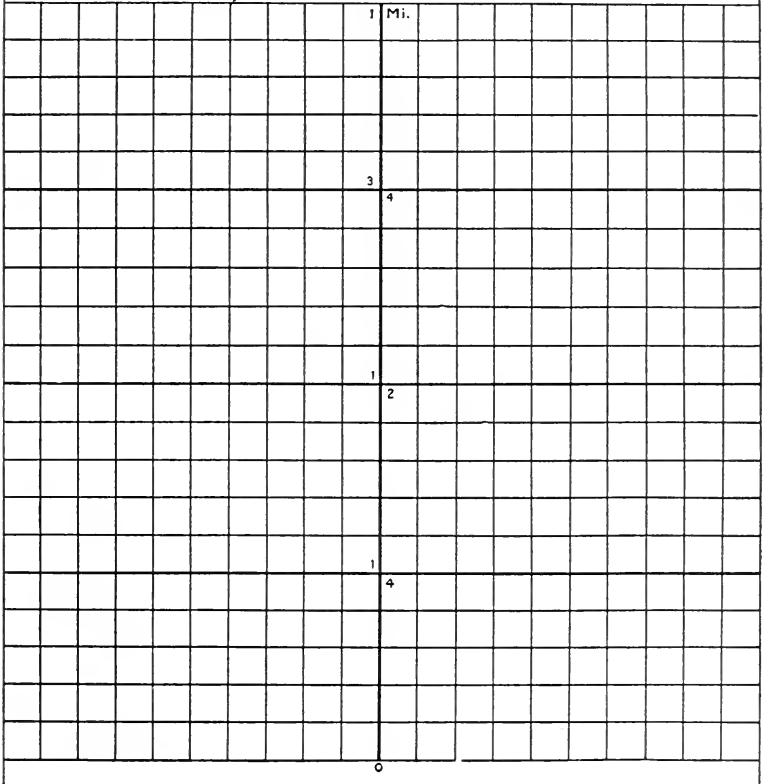

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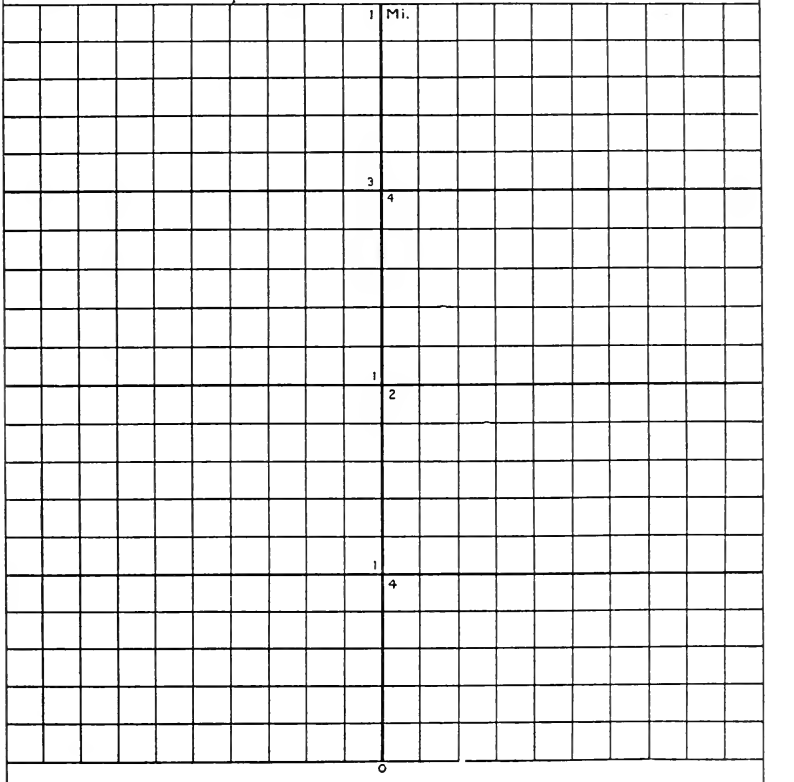

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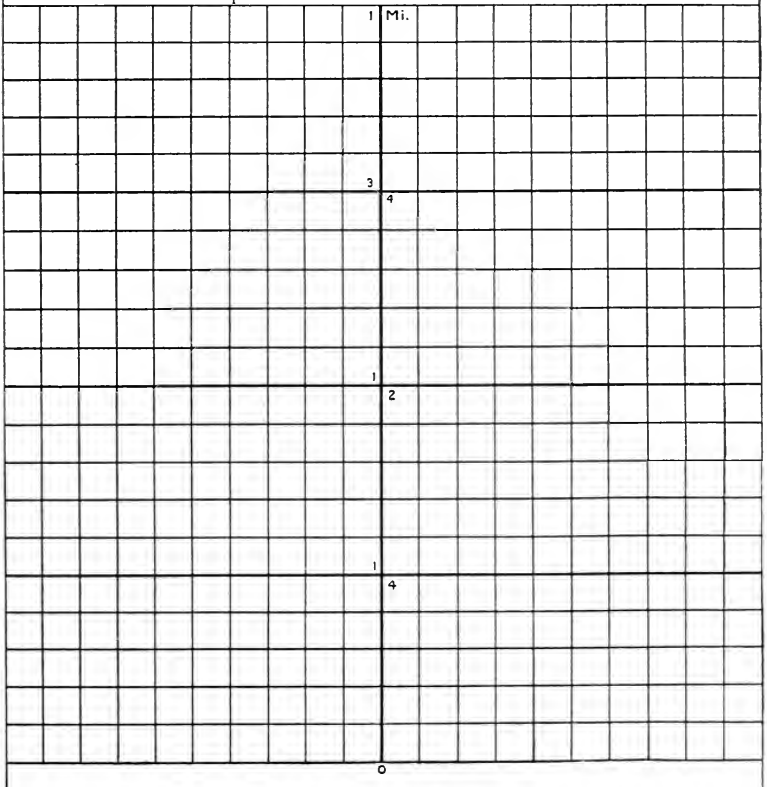

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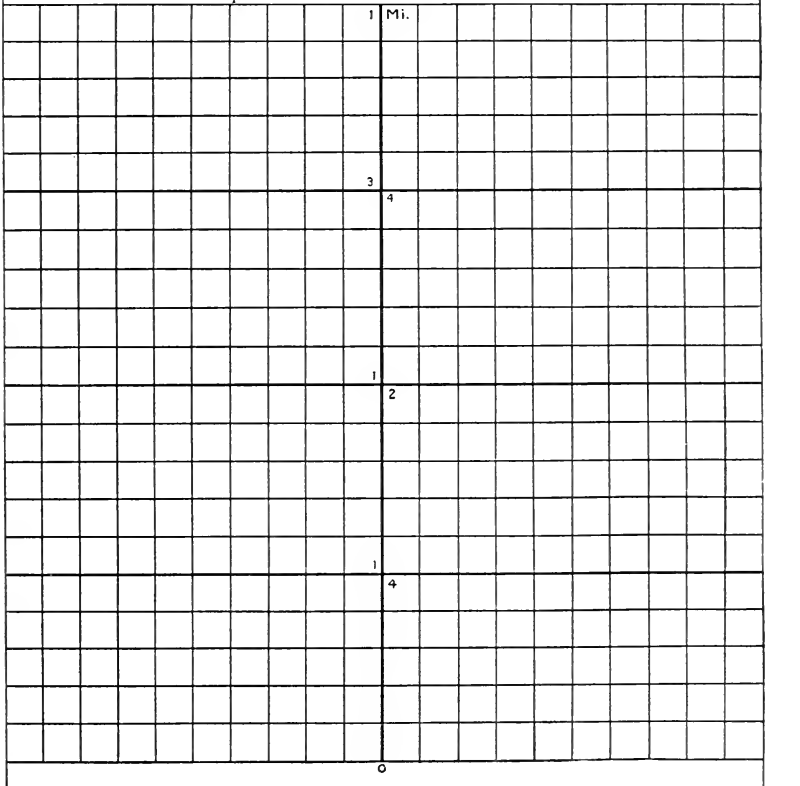

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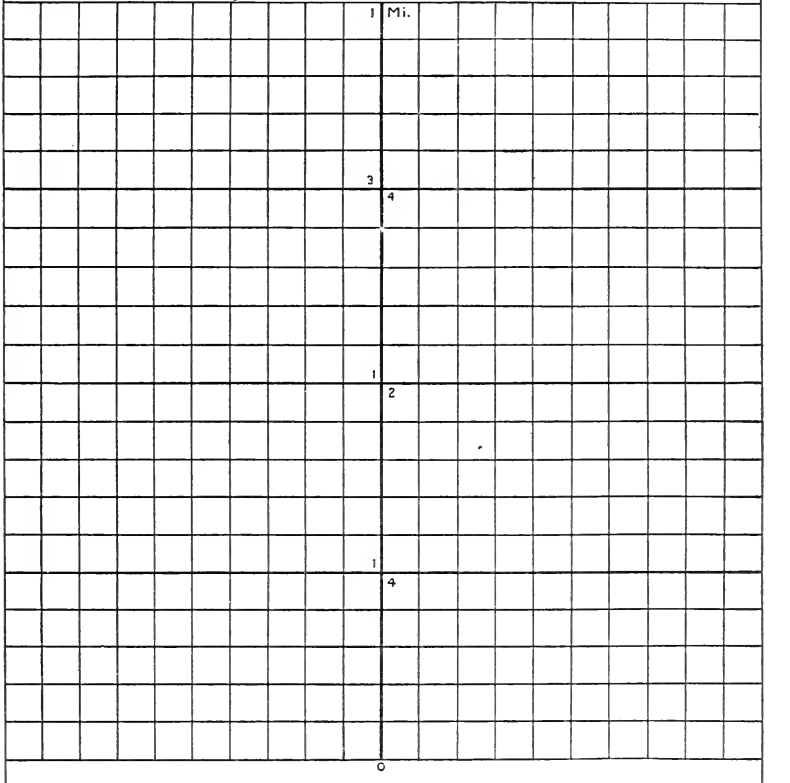

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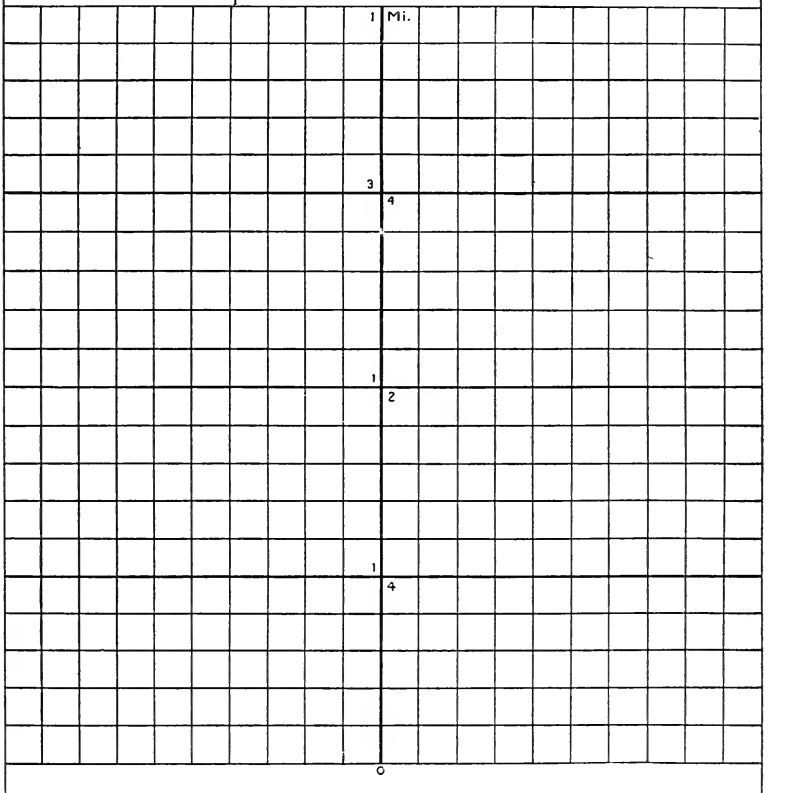

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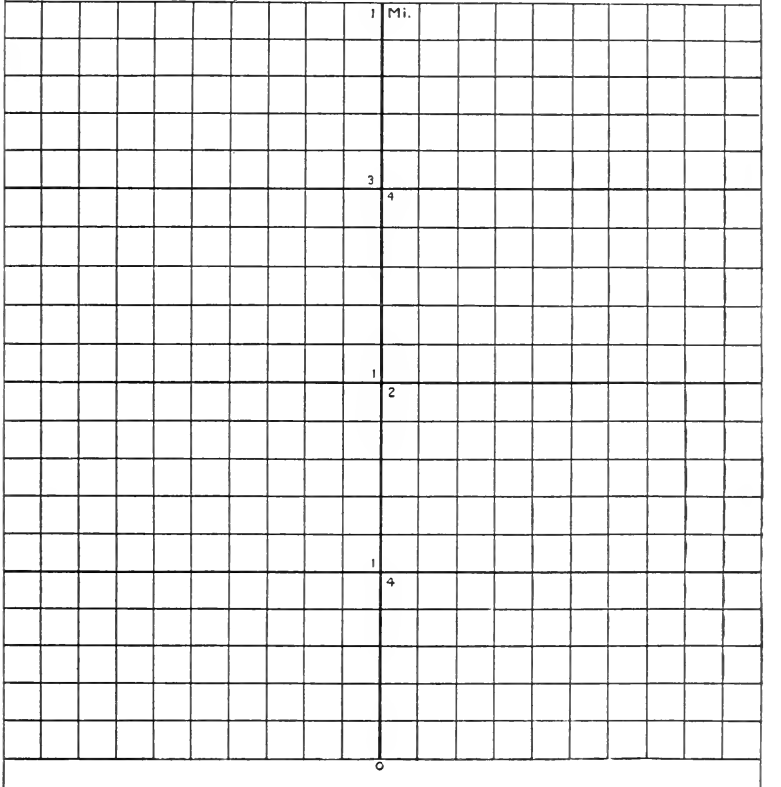

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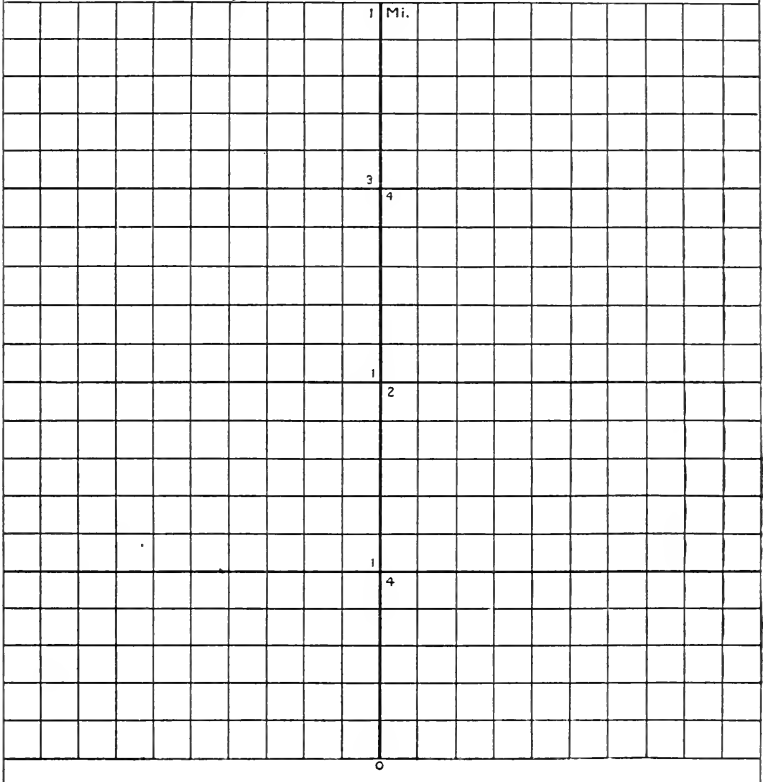

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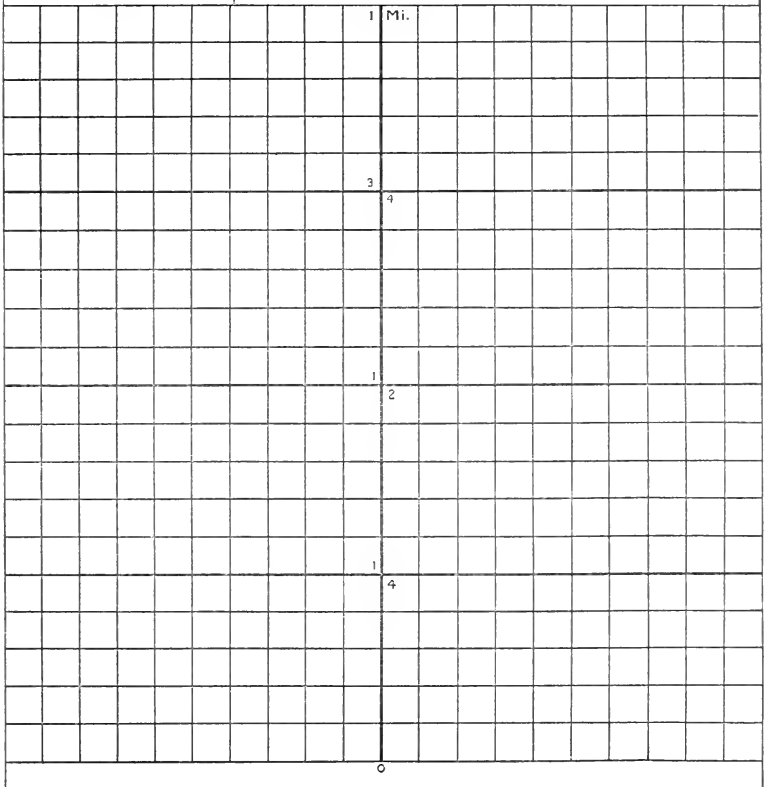

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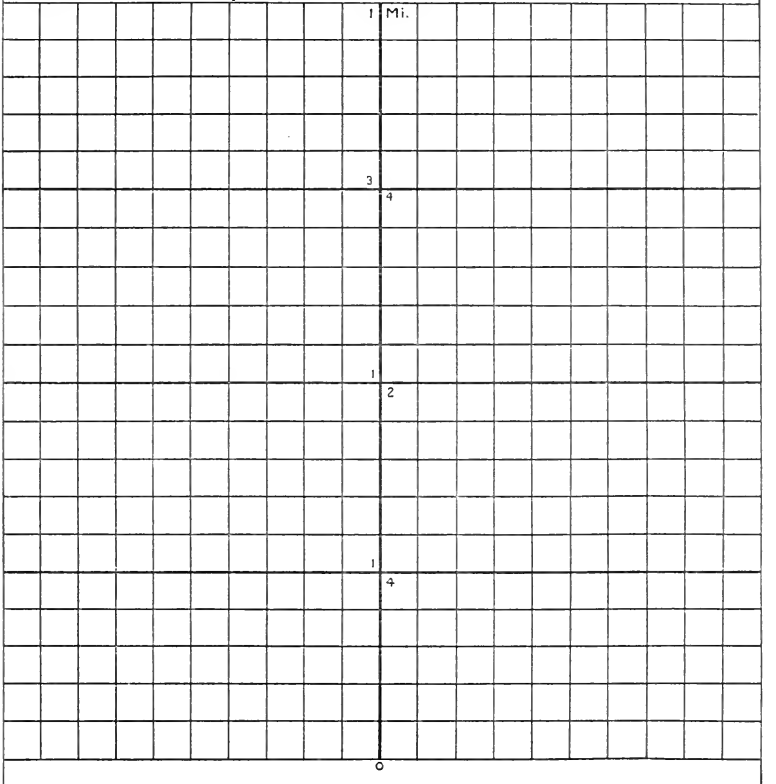

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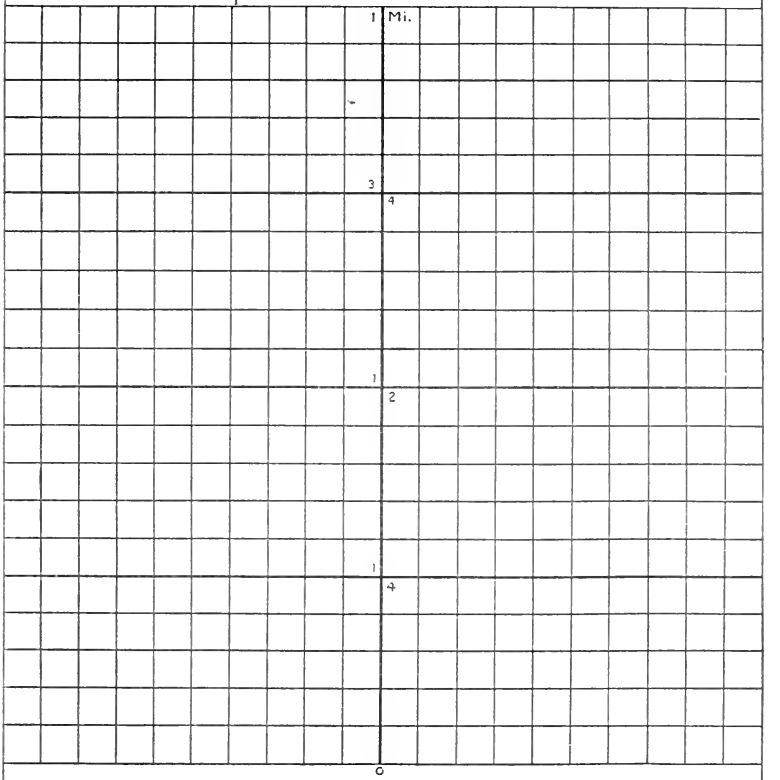

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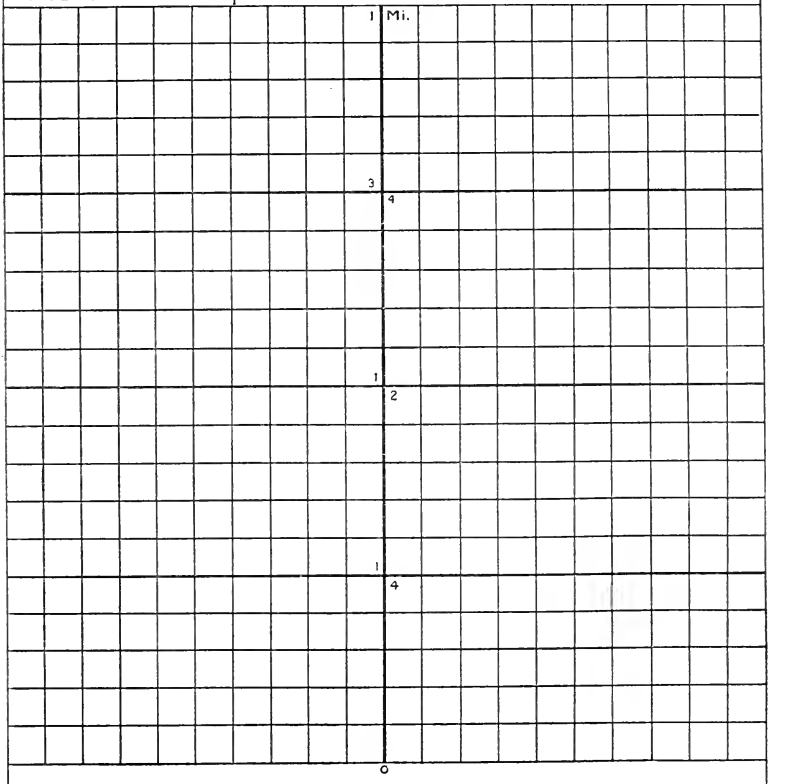

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KINDS OF WOOD—CONTINUED

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	Amounts to the Mile				
	Reduced to Amounts per Acre				

CHAINS

PARTIAL	TOTAL
3	
	4
1	
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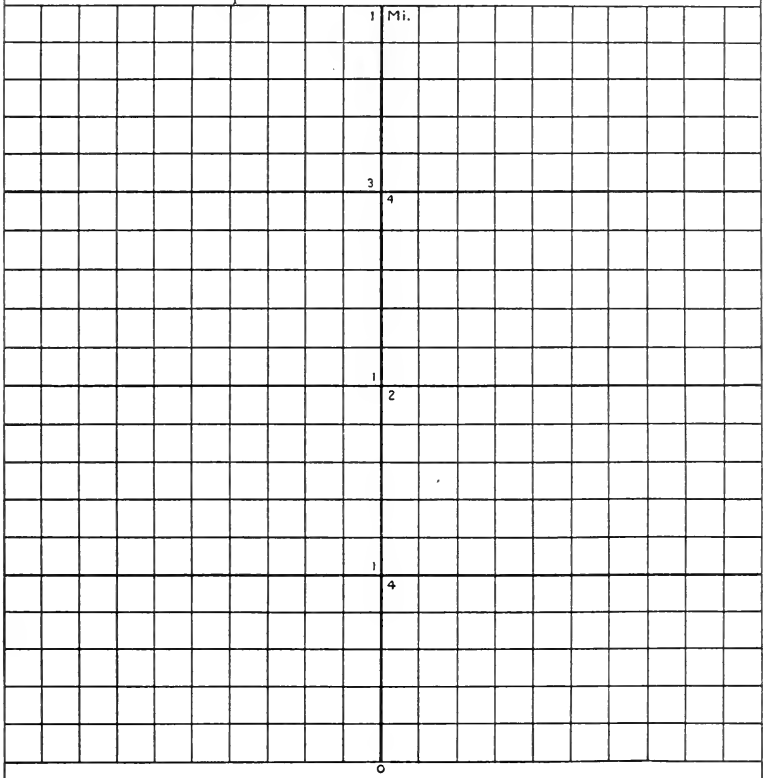

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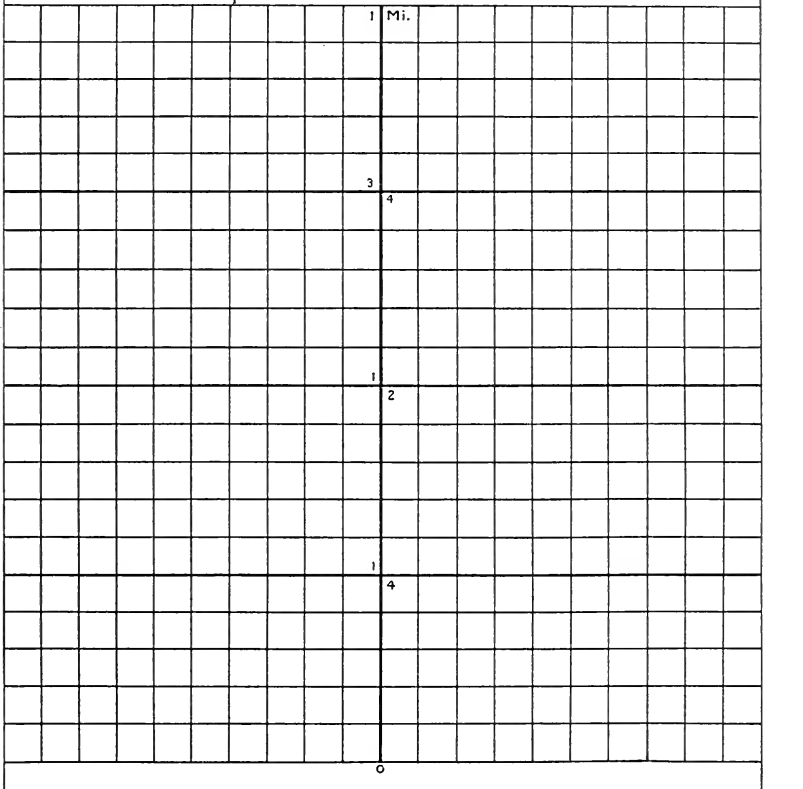

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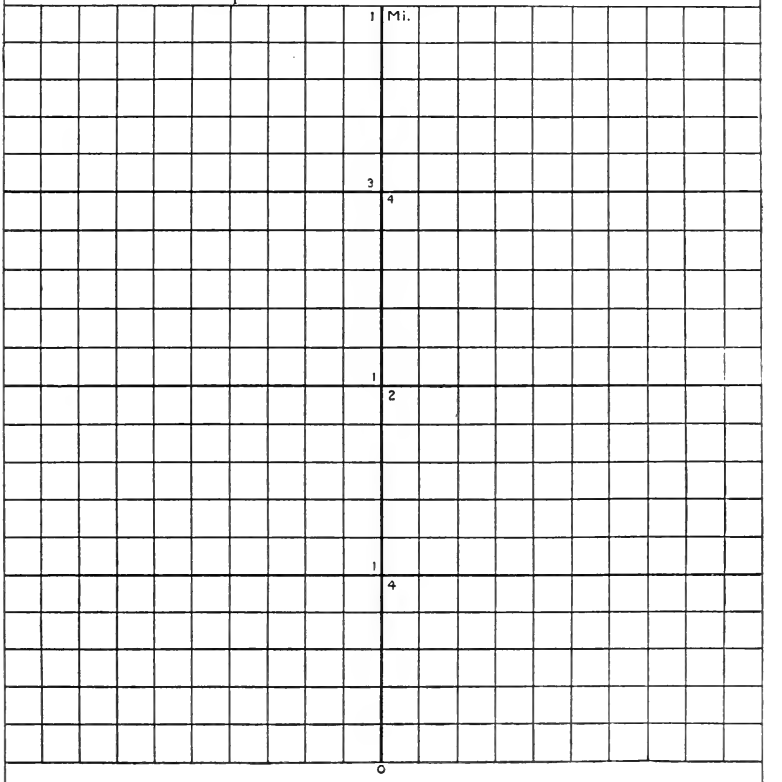

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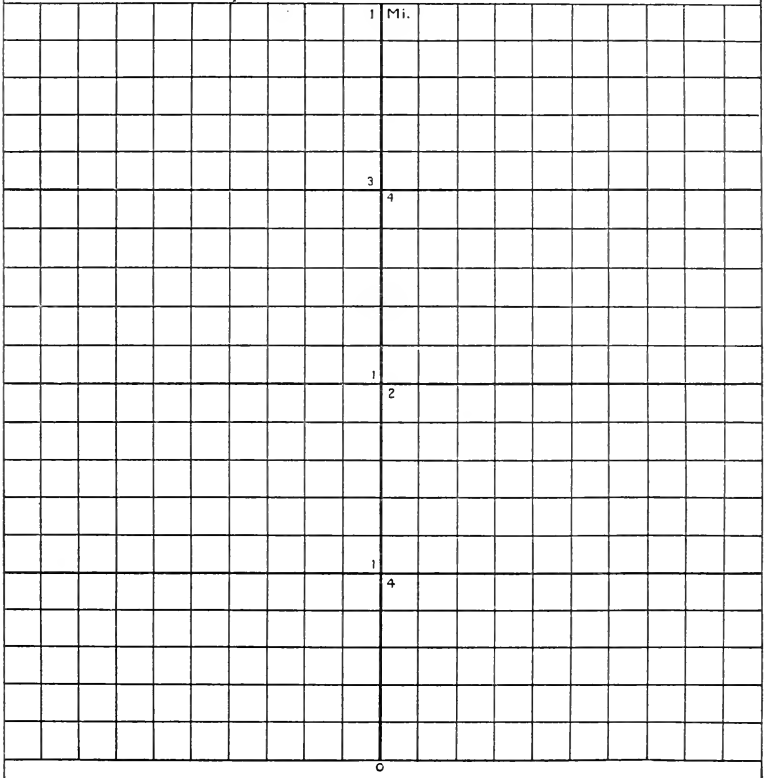

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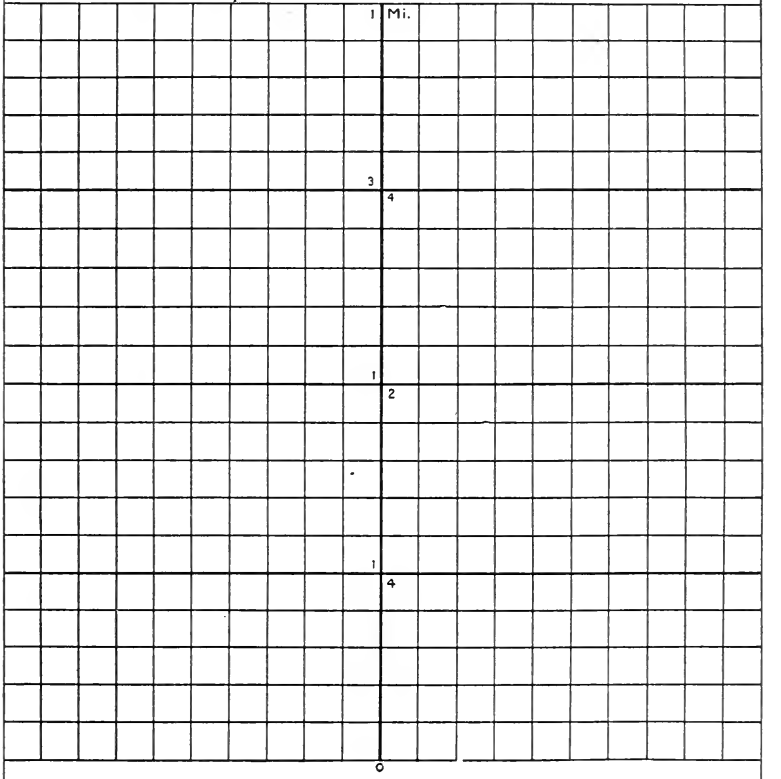

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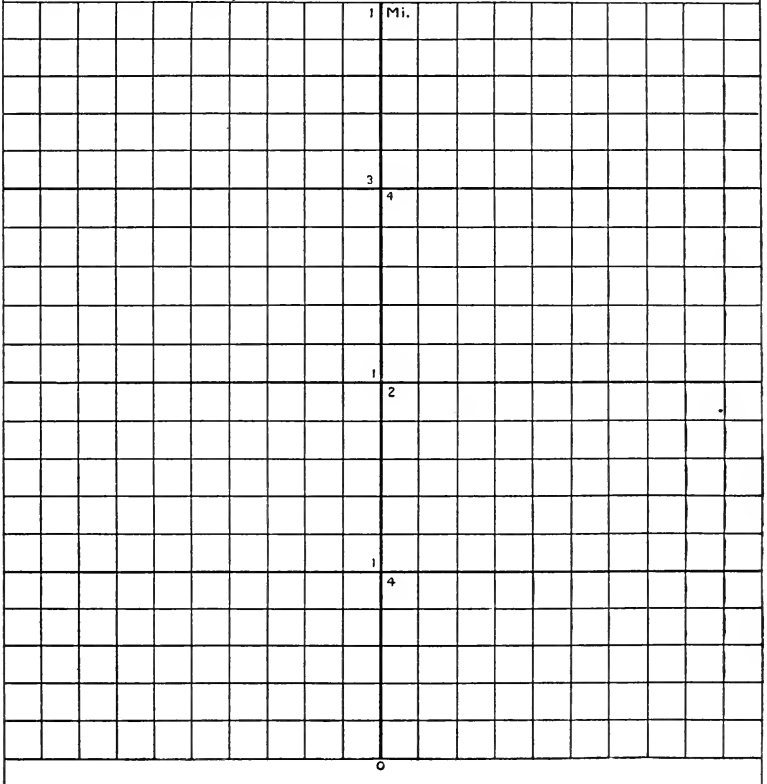

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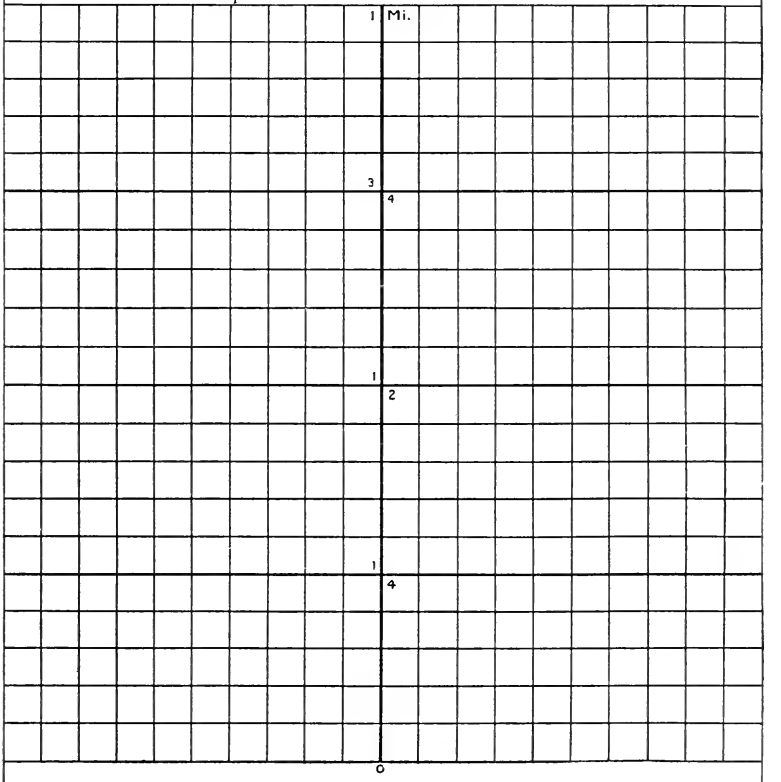

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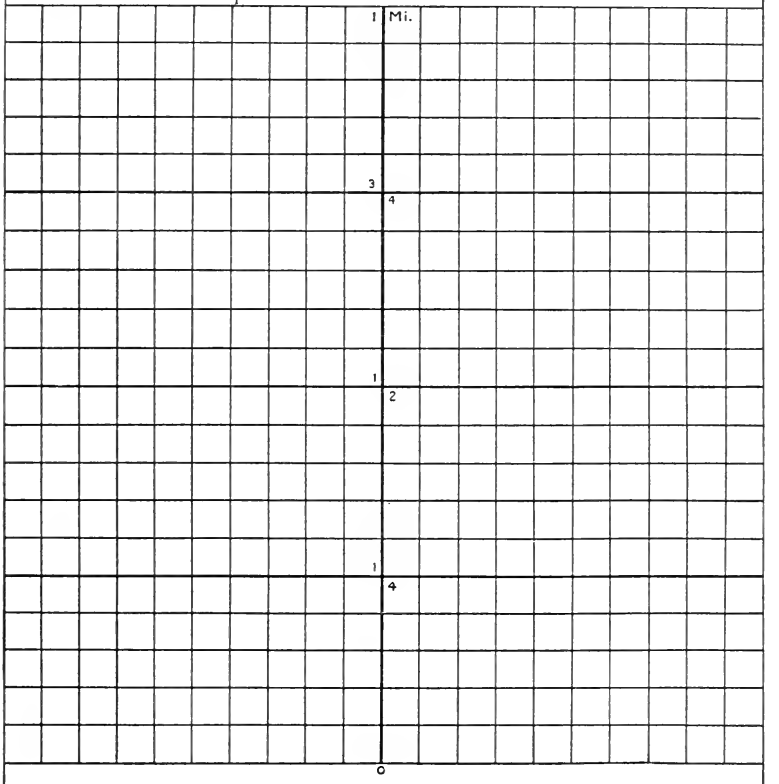

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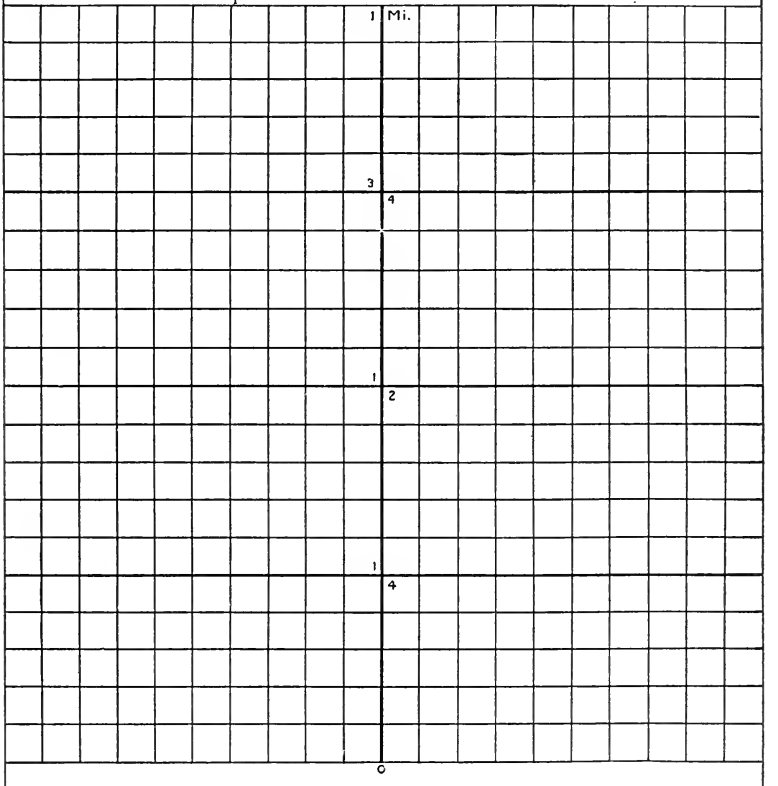

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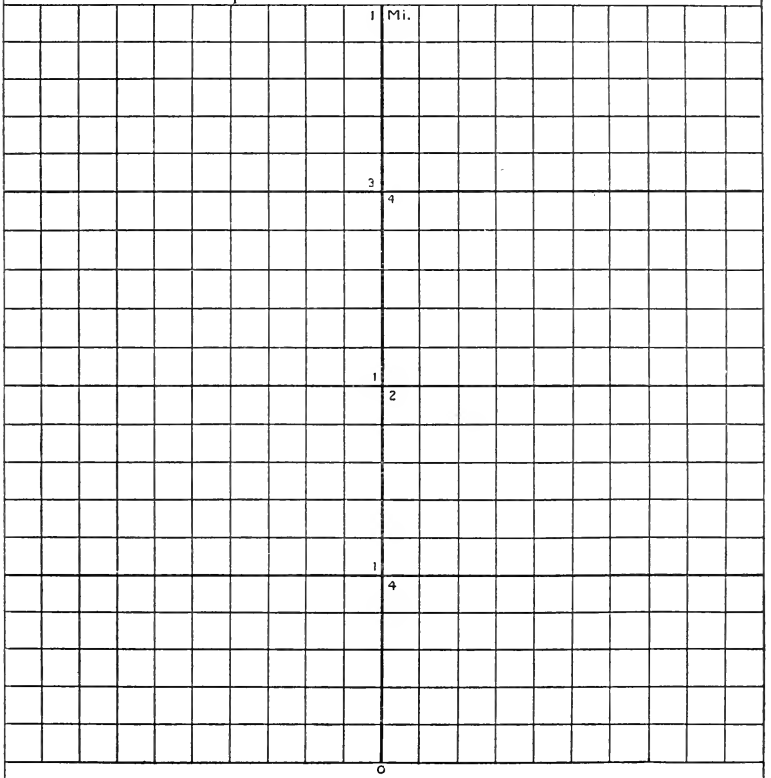

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